

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1           Claim 1 (currently amended): A method for forming an electric circuit on a construction  
2 member disposed on a machine based on a set of three-dimensional data, the set of three-dimensional  
3 data used to determine a position and a profile of the construction member, a position of the electric  
4 circuit, and a shape of the electric circuit, the electric circuit used for electrical connection between  
5 electric instruments mounted on the construction member,

6           wherein the set of three-dimensional data is prepared when designing the machine and  
7 associated with a reference coordinate system provided in the machine, the origin of the coordinate  
8 system being located at any position of the machine, and the set of three-dimensional data includes  
9 coordinates of points for determining arrangement of the electric circuit, a distance between any two  
10 of the points adjacent to each other, and a cross-sectional area of the electric circuit extended  
11 between the two points,

12           the method comprising the step of converting the set of three-dimensional data of the  
13 coordinate system having the origin located at any position of the machine to a second set of three-  
14 dimensional data associated with a reference coordinate system provided in the construction member  
15 disposed on a transfer unit and having the origin in the construction member,

16           the method further comprising the step of intermittently jetting a molten metal against the  
17           construction member to define rows of metal grains so as to deposit the molten metal on a surface  
18           of the construction member to form the electric circuit on the construction member based on the  
19           second set of three-dimensional data,

20           wherein the deposited metal grains overlap one another such that the electric circuit has the  
21           cross-sectional area stored in the second set of three-dimensional data between the two points, and

22           wherein the molten metal is jetted from a nozzle and both the nozzle and the construction  
23           member have X, Y, Z axes perpendicular to each other, the nozzle being movable along each of the  
24           X, Y, Z axes, the nozzle moving in a circumferential direction around each of the X axis and the Y  
25           axis, and the construction member being movable along each of the X, Y, Z axes and also in a  
26           circumferential direction around each of the X, Y, Z axes.

Claims 2-6 (canceled).

1           Claim 7 (original): The method as described in claim 1 wherein an insulator is layered on  
2           the electric circuit.

1           Claim 8 (previously presented): The method as described in claim 7 wherein the method  
2           comprises the step of jetting a second molten metal against the insulator to deposit the second molten  
3           metal on the insulator.

Claims 9-10 (canceled).

1           Claim 11 (currently amended): A method for forming an electric circuit on an insulating  
2     intermediate member laid on a construction member disposed on a machine based on a set of three-  
3     dimensional data, the set of three-dimensional data used to determine a position and a profile of the  
4     construction member, a position of the electric circuit, and a shape of the electric circuit, the electric  
5     circuit used for electrical connection between electric instruments mounted on the construction  
6     member,

7           wherein the set of three-dimensional data is prepared when designing the machine and  
8     associated with a reference coordinate system provided in the machine, the origin of the coordinate  
9     system being located at any position of the machine, and the set of three-dimensional data includes  
10    coordinates of points for determining arrangement of the electric circuit, a distance between any two  
11    of the points adjacent to each other, and a cross-sectional area of the electric circuit extended  
12    between the two points,

13          the method comprising the step of converting the set of three-dimensional data of the  
14    coordinate system having the origin located at any position of the machine to a second set of three-  
15    dimensional data associated with a reference coordinate system provided in the construction member  
16    or on the intermediate member disposed on a transfer unit and having the origin in the member  
17    provided,

18          the method comprising the step of intermittently jetting a molten metal against the  
19    construction member to define rows of metal grains so as to deposit the molten metal on a surface

20 of the intermediate member to form the electric circuit on the surface of the intermediate member  
21 based on the second set of three-dimensional data,

22 wherein the deposited metal grains overlap one another such that the electric circuit has the  
23 cross-sectional area stored in the second set of three-dimensional data between the two points, and

24 wherein the molten metal is jetted from a nozzle and both the nozzle and the construction  
25 member have X, Y, Z axes perpendicular to each other, the nozzle being movable along each of the  
26 X, Y, Z axes, the nozzle moving in a circumferential direction around each of the X axis and the Y  
27 axis, and the construction member being movable along each of the X, Y, Z axes and also in a  
28 circumferential direction around each of the X, Y, Z axes.

Claims 12-16 (canceled).

1 Claim 17 (original): The method as described in claim 11 wherein an insulator is layered on  
2 the electric circuit defined on the insulating intermediate member.

1 Claim 18 (previously presented): The method as described in claim 17 wherein the method  
2 comprises the step of jetting a second molten metal against the insulator to deposit the second molten  
3 metal on the insulator.

Claims 19-50 (canceled).

1           Claim 51 (previously presented): The method as described in claim 1, wherein, in the step  
2           of intermittently jetting the molten metal against the construction member, an aerosol of the molten  
3           metal is jetted with compressed air against the construction member to define the electric circuit.

1           Claim 52 (previously presented): The method as described in claim 51, wherein, in the step  
2           of intermittently jetting the molten metal against the construction member, a mask is provided for  
3           the construction member to prevent scattering of the molten metal, the mask having a through hole  
4           which passes the molten metal to deposit it on the construction member.

1           Claim 53 (previously presented): The method as described in claim 1, wherein, in the step  
2           of intermittently jetting the molten metal against the construction member, a compressed gas having  
3           a temperature lower than a melting or softening temperature of the metal is jetted from a nozzle with  
4           an ultrasonic speed such that the grains of the metal are entrained in the ultrasonic speed flow of the  
5           gas in the nozzle.

1           Claim 54 (previously presented): The method as described in claim 11, wherein, in the step  
2           of intermittently jetting the molten metal against the intermediate member, an aerosol of the molten  
3           metal is jetted with compressed air against the intermediate member to define the electric circuit.

1           Claim 55 (previously presented): The method as described in claim 54, wherein, in the step  
2           of intermittently jetting the molten metal against the intermediate member, a mask is provided for

3 the intermediate member to prevent scattering of the molten metal, the mask having a through hole  
4 which passes the molten metal to deposit it on the intermediate member.

1 Claim 56 (previously presented): The method as described in claim 11, wherein, in the step  
2 of intermittently jetting the molten metal against the intermediate member, a compressed gas having  
3 a temperature lower than a melting or softening temperature of the metal is jetted from a nozzle with  
4 an ultrasonic speed such that the grains of the metal are entrained in the ultrasonic speed flow of the  
5 gas in the nozzle.

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